

# Abusive Head Trauma Evidence: Admissibility at Trial

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“You”

Me...



# Agenda

- Acknowledgements
- Terminology
- History
- Challenges to Admissibility
- Case Law
- Demonstrative Evidence



# Terminology

- Subarachnoid hemorrhage
- cerebral ischemia
- temporal occipital region
- metaphyseal fracture



# Historical Perspective:

- Tardieu (1860)
- find image of doctor in 1800's
- 100 years not much movement
- 1950's: Virginia Jasper

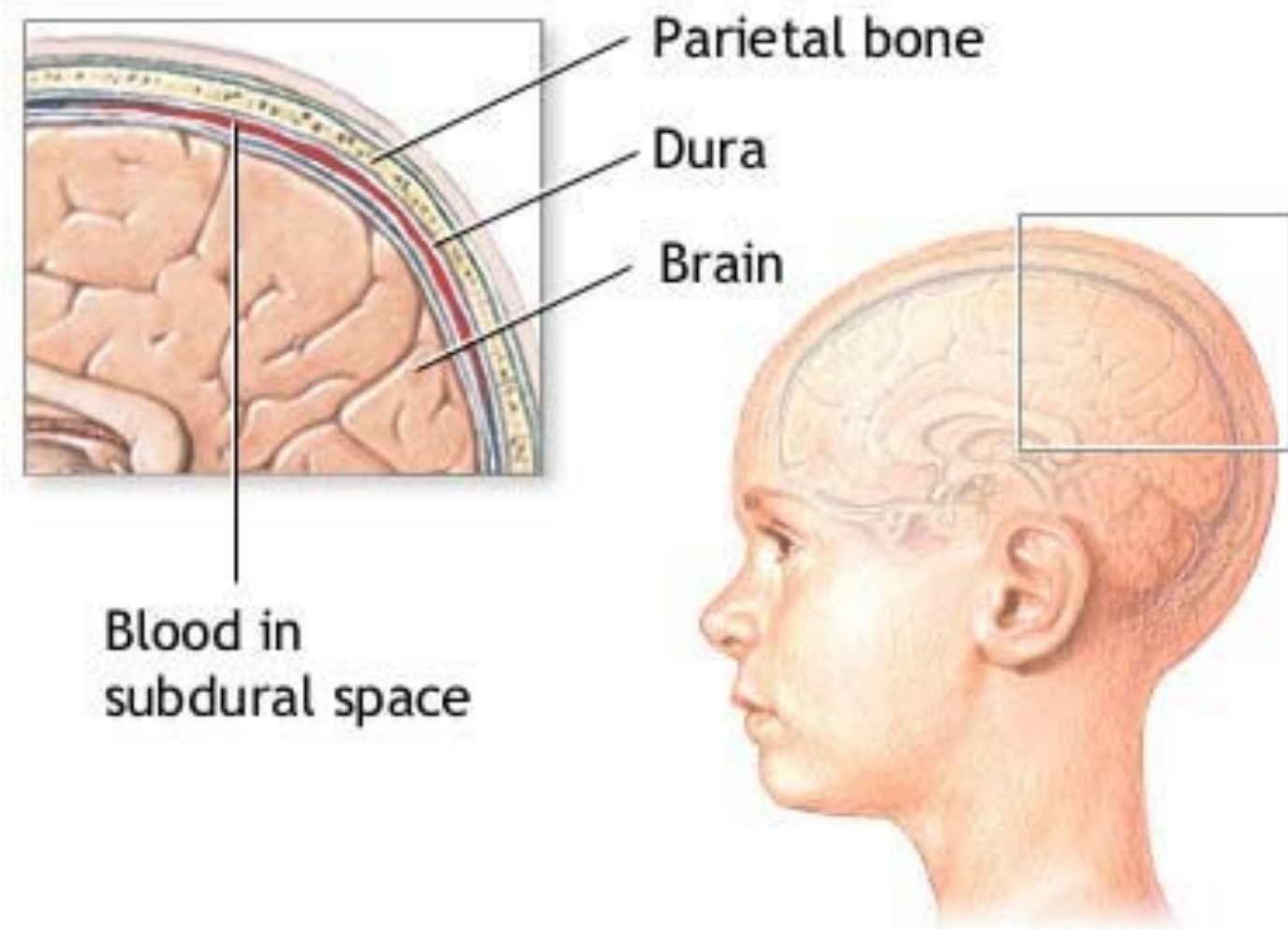
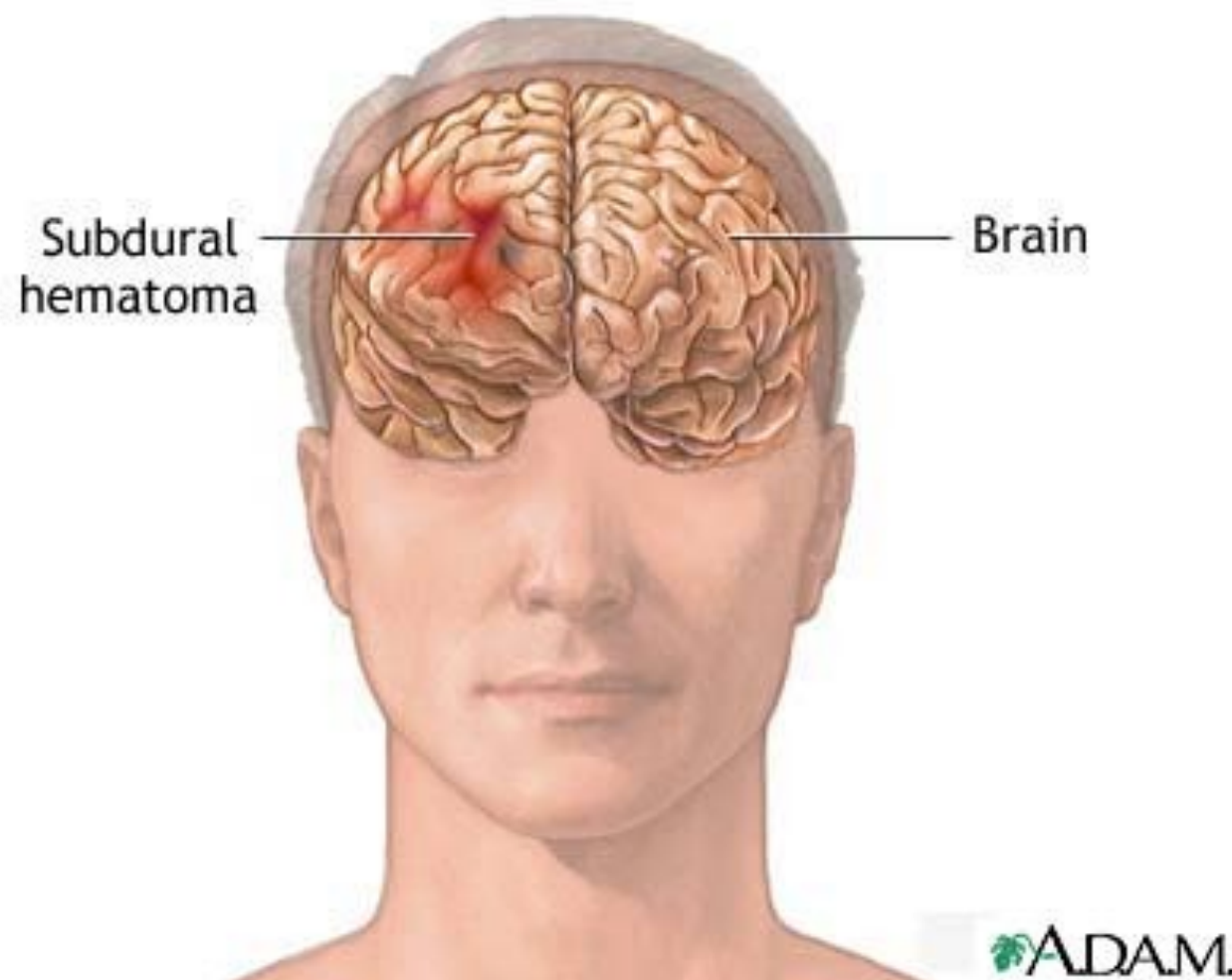


# Historical Perspective

- John Caffey, Radiologist 1946:
- Constellation of Injuries:(Initially)
  - Subdural Hematomas
  - Metaphseal fractures of long bones

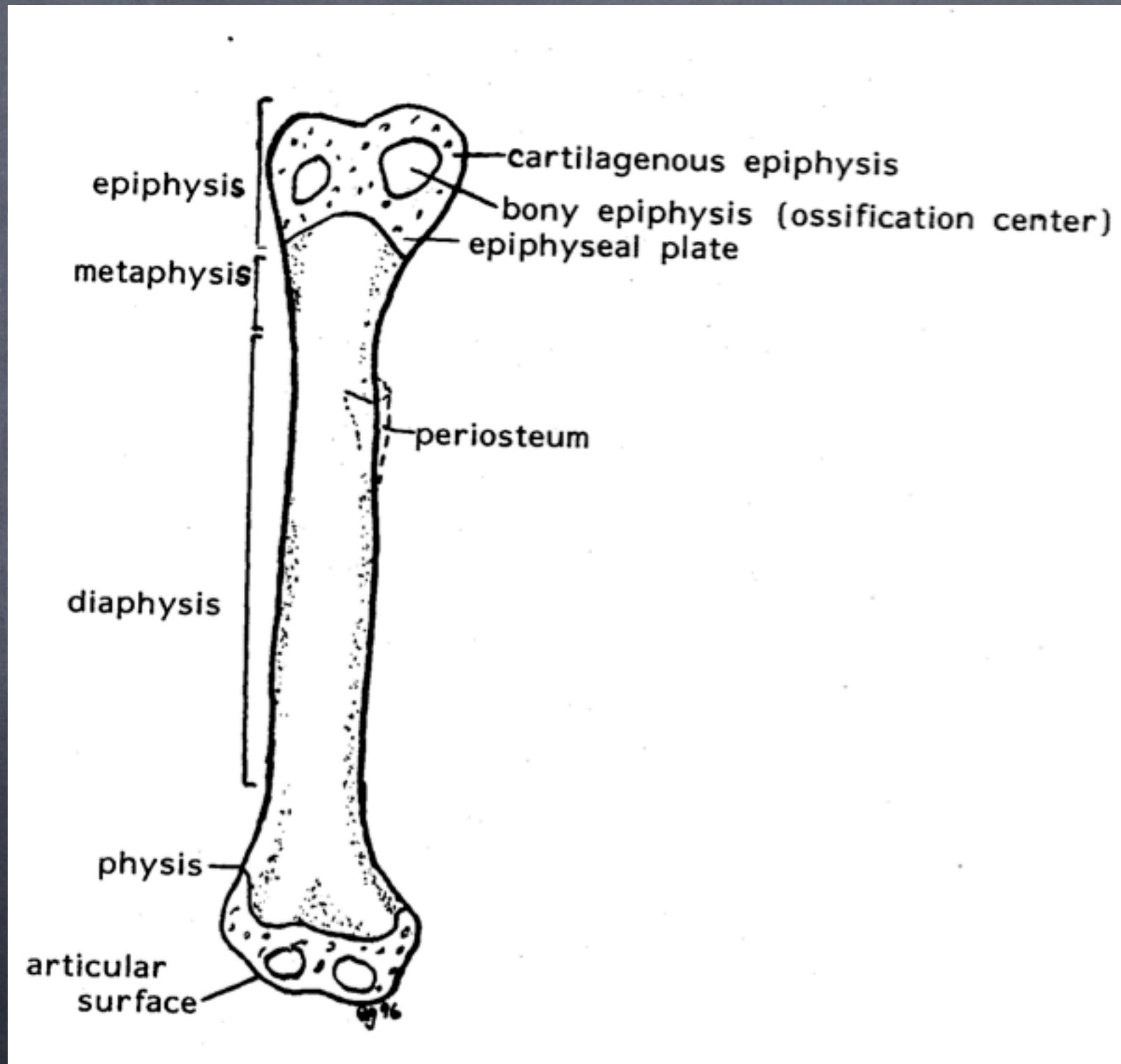


# Subdural Hematomas





# Metaphyseal Fracture





# Historical Perspective

- 1960's
- Dr. Ommaya: Biomechanical Study of monkeys
- Conclusion:
  - possible to have brain injury from shaking alone



# Historical Perspective:

- John Caffey, radiologist: (1974)
- “only an infinitesimal portion of the uncounted thousands of moderate , unadmitted, undetected and unrecorded whiplash shakings which probably occur in United States every day...”

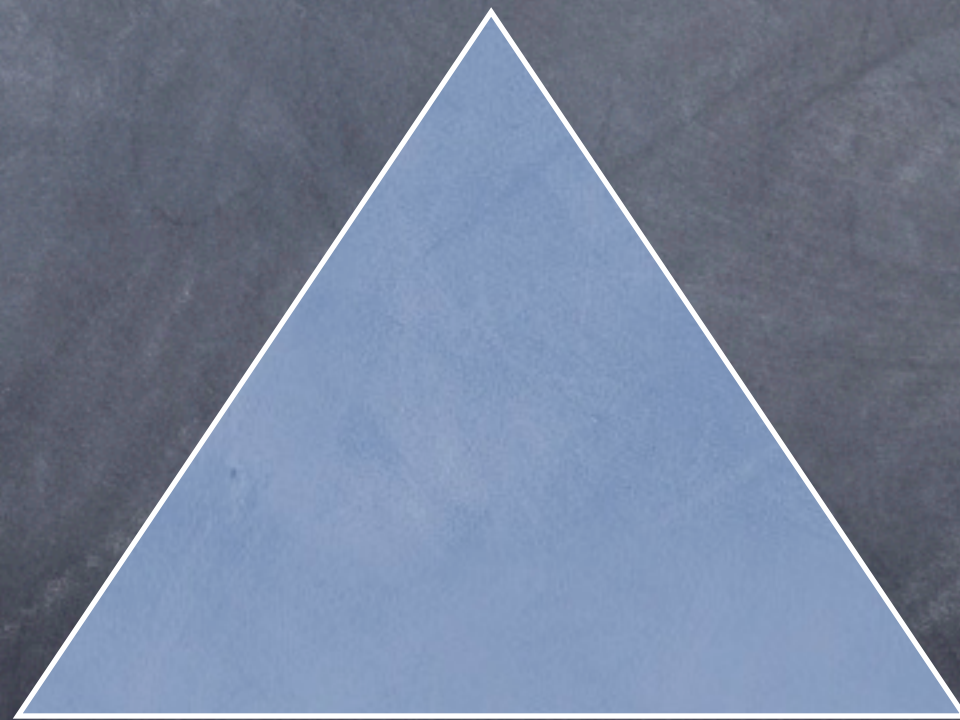
Caffey, J., “The Whiplash-Shaken Infant Syndrome: Manual Shaking by the Extremities with Whiplash-Induced Intra Cranial and Intra Ocular Bleeding, Linked with Residual Permanent Damage and Mental Retardation” Pediatrics 1974;



# Historical Perspective

Following Caffey article Constellation of  
Injuries Changed

Subdural Hematomas or Subarchnoid Hemorrhages

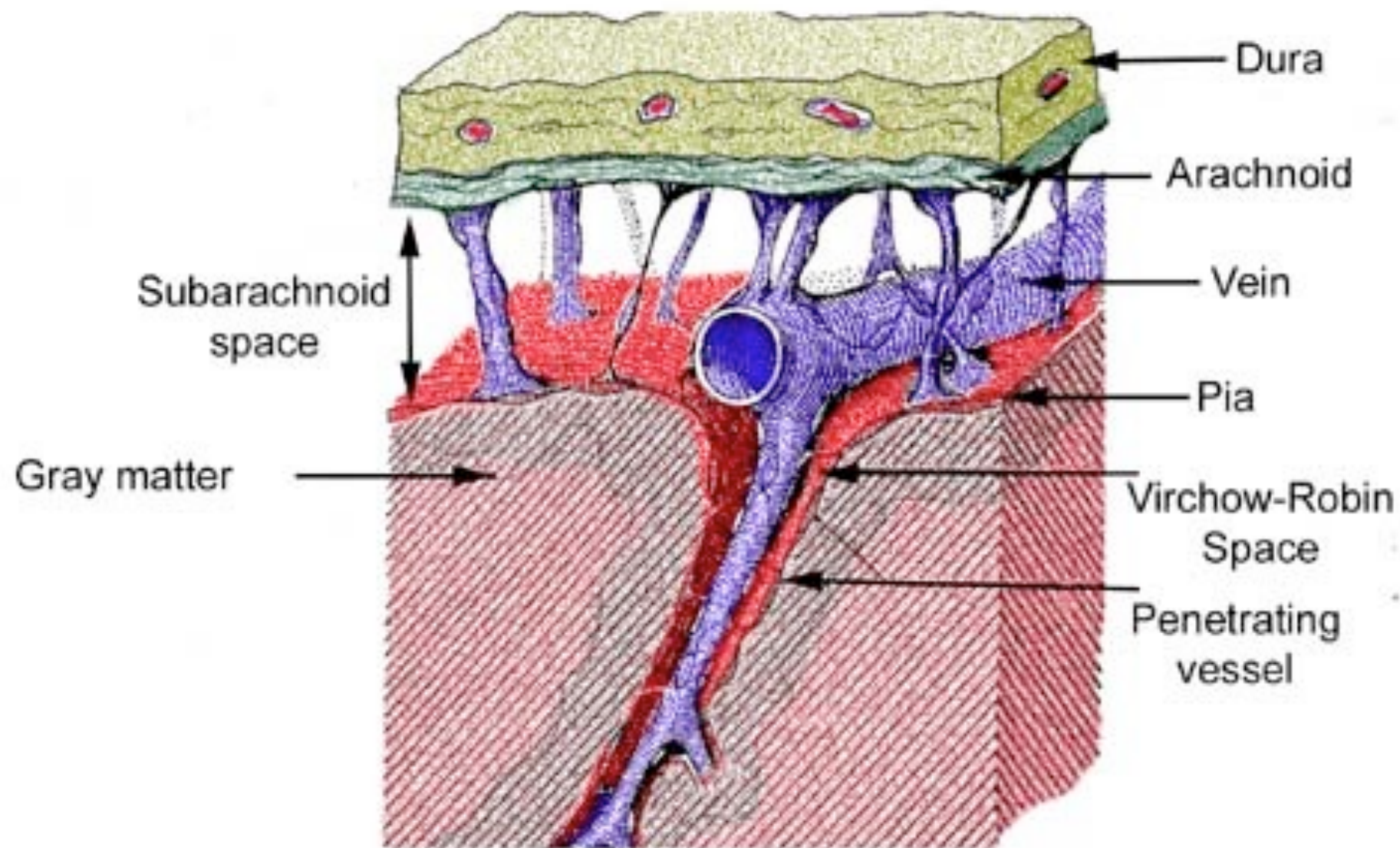


Retinal Hemorrhages

Metaphyseal Fractures



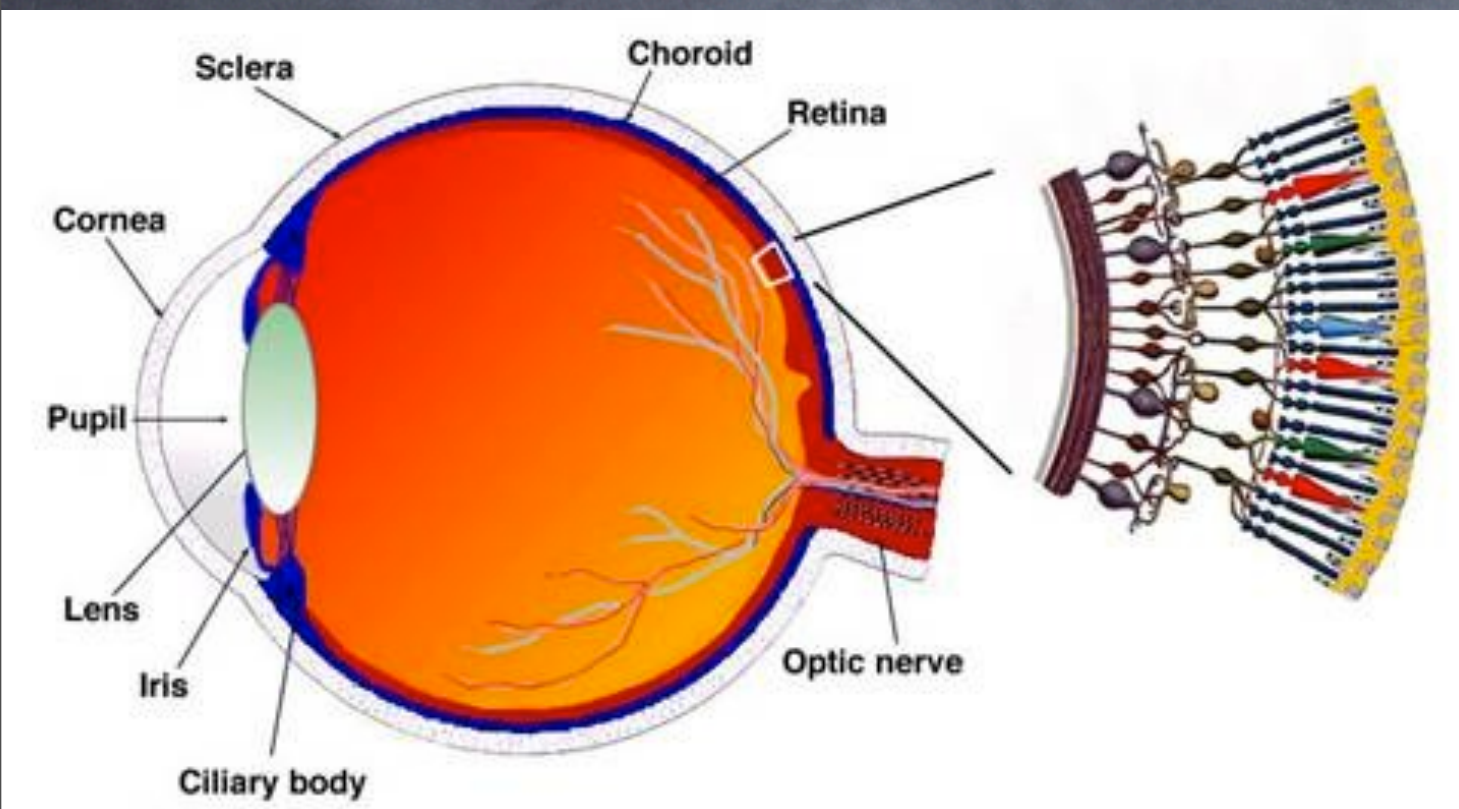
# Subarachnoid Hemorrhages





# Retinal Hemorrhage

Healthy Eye



Retinal Hemorrhages





# Historical Perspective:

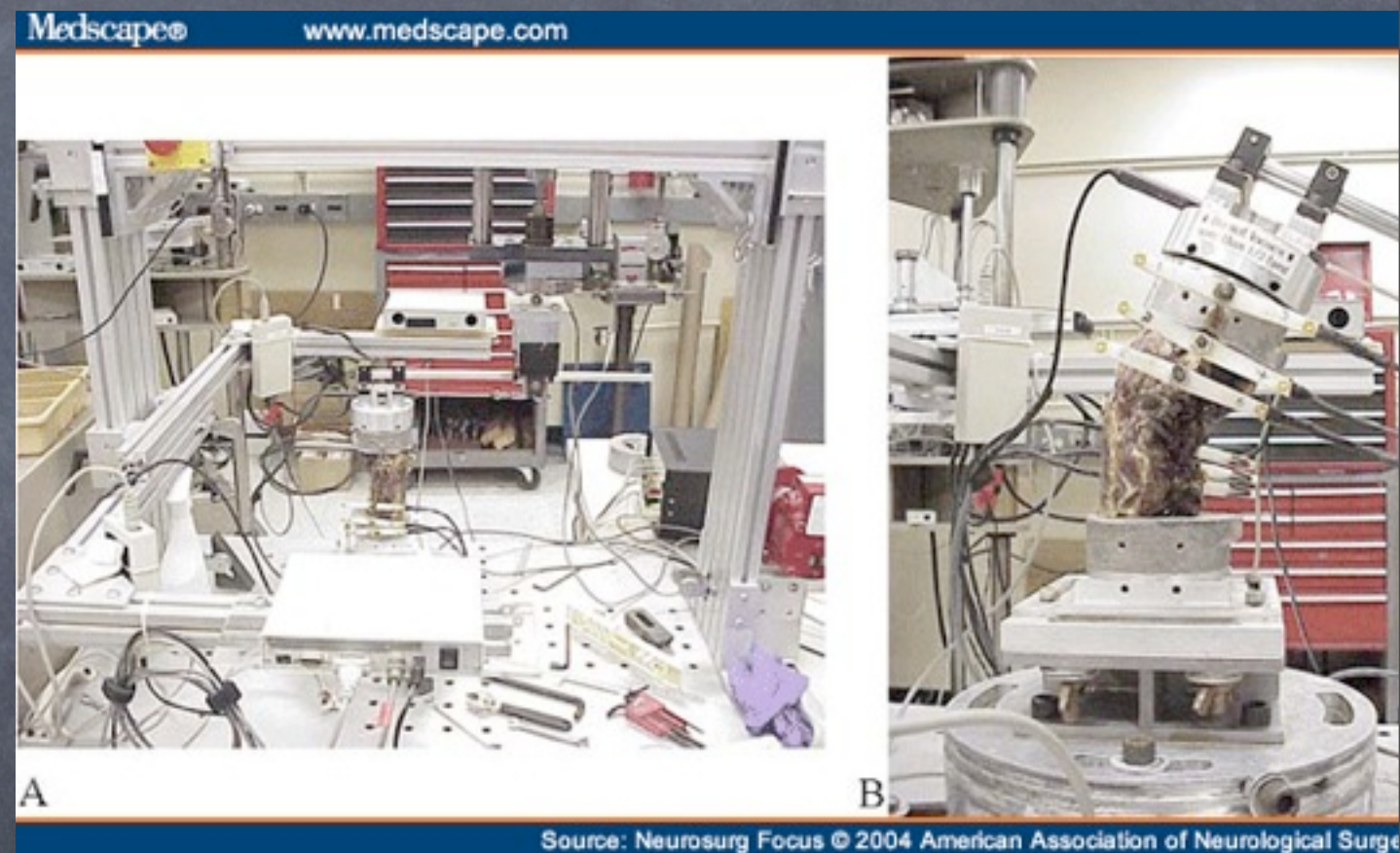
- 1980's
- Phrases:
  - Shaken Infant Syndrome
  - Shaken Baby Syndrome
- First attack...



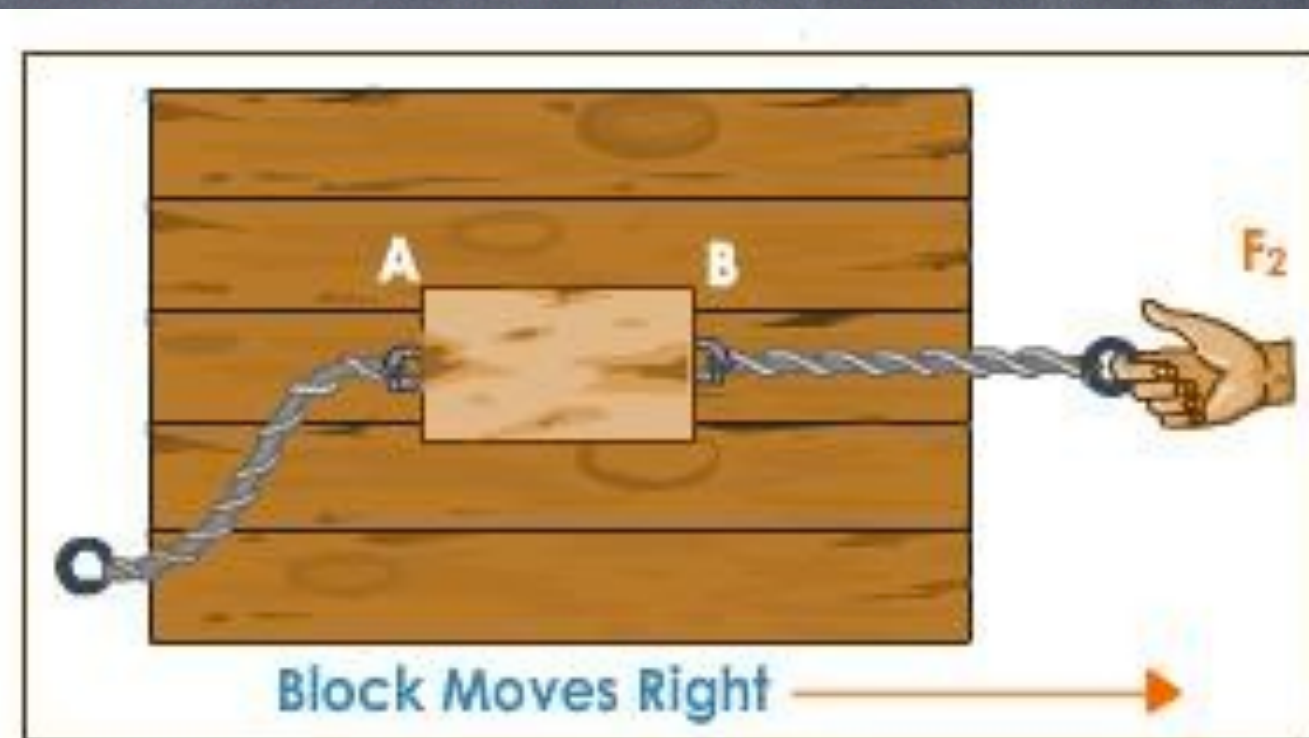
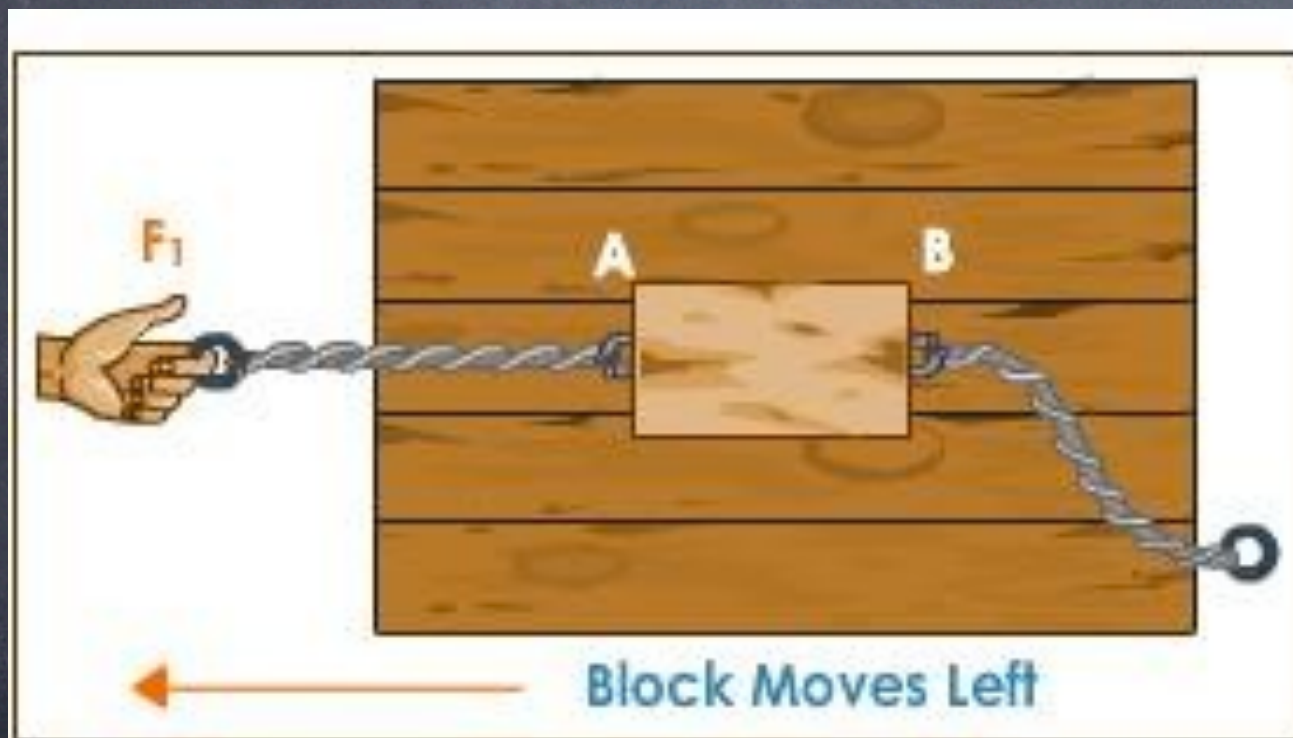
# Historical Perspective:

## First Attack:

- Ann-Christine Duhaime:  
(1987)
  - Bio-mechanical study
  - conclusion:
  - shaking alone not sufficient force to cause damage
  - must have shaking and impact









# Historical Perspective

- 1990's
- Duhaime study questioned:
  - Supposed to be 2nd part to study and article, never materialized
- MMDT Responses:
  - Opthamologists, radiology specialists, pediatricians and pathologists

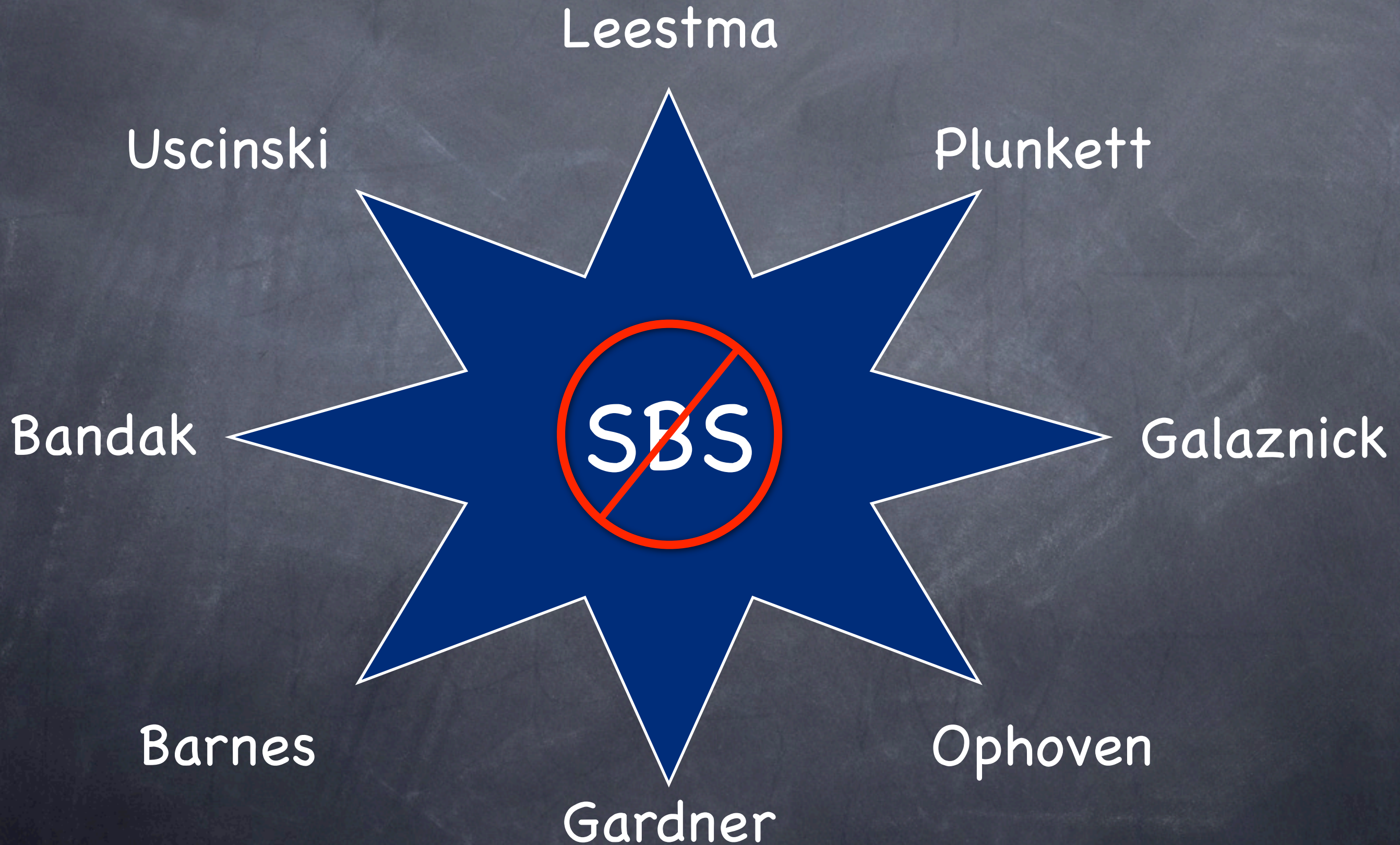


# Historical Perspective

- 2000's Battle Rages on:
- Axis of Evil Against AHT:



# Axis of Evil





# Common Defenses Raised:

- Short Falls
- Lucid Intervals
- Coughing/Chocking
- Re-bleeds
- Vitamin deficiencies or Vaccinations
- Biomechanics
- Birth trauma
- Thrombosis of veins
- Timing of injury
- Retinal hemorrhage cause by ICP



# Historical Perspective:

- Debate rages on...





## Shaken Baby Syndrome 101

SBS 101  
Subdurals  
Retinal Hemorrhages  
Fractures  
Anatomy of an Autopsy  
Neuro-Anatomy 101  
Biomechanics 101  
SBS Myths  
Alternate Explanations  
Annotated Bibliography  
Glossary

## Shaken Baby Defense

### MEMBER LOG-IN

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content and is designated for  
DEFENSE ATTORNEYS ONLY.

## SBS & False Allegations

Know Your Rights!  
Investigation Checklist  
Prosecution Experts  
Attorneys  
Resources

## About Us

Biography

SHAKEN BABY SYNDROME DEFENSE



## Shaken Baby Syndrome Defense

Under current reporting laws, when retinal hemorrhages and subdural hematomas are found in a child, there is an immediate referral to child protective services, unless the caretaker has story that comports with a 2-3 story fall, or a 35 mile per hour unrestrained car accident. A determining factor of whether a child receives a diagnosis of "SBS" or not (and whether a caregiver is charged), is the believability of the story.

If there are multiple witnesses, or one disinterested witness, the caregiver is not likely to be charged. If the history given at the hospital is that of a motor vehicle accident or a high fall, the case is unlikely to be charged. However, if the parent reports a short fall or some other event less likely to result in death, the case is quick to be charged as a "shaken baby case" and the child is not screened further for precipitating or contributing factors.

When looked at through the SBS lens, doctors see what may be precipitating or contributing factors (such as an old subdural, thrombotic disorder, or a tendency to bruise easy) as evidence of prior abuse. In actuality, these may be indicators of systemic problems or red flags for high-risk babies. The problem is, diagnosing in this manner allows these cases to be charged based on statistical probabilities: cases that are improbable are deemed child abuse.

Though it is less likely than other scenarios, and agreeably not the norm, children do sometimes die from falls of less than six feet. Therefore, to charge someone for child abuse, simply because it is a statistically



# New Defense Tactic:

- Attack Admissibility in Court:
- Under either Daubert or Frye depending upon jurisdiction





# Daubert v. Merrell Dow

## Pharmaceuticals:

- Has scientific theory been proven or can it be proven...
- Whether or not the theory has been published or subject to peer-review...
- Whether theory has a known error rate or if a rate and if so what is it
- Whether theory is generally accepted by the scientific community



# Daubert 1st Element: S.T. Proven or Can Be Proven

- Yes:
- Ommaya Study: 1960's



# Defense Retort:

- Duhaime Study in 87!
  - Reliance on Ommaya is flawed:
  - If flawed first time, all resulting reliance is flawed...



# Daubert 2nd Element: Published or Peer Review

- Yes:

- Since original Caffey article in 1946, there have been over 200 peer reviewed articles supporting existence of mechanism of shaken baby syndrome.



# Daubert 3rd Element: Potential Rate of Error

- Yes:
- Ommaya study
  - Number is quantified



# Defense Retort

- Donohoe article reviewing literature from 1966–1988:
- Conclusion:
  - “the scientific evidence to support a diagnosis of SBS much less reliable than generally thought.” “the evidence for SBS appears analogous to an inverted pyramid with a very small database (most of it poor quality original research, retrospective in nature, and without appropriate control groups.”



# Daubert 4th Element: General Acceptance

- American Academy of Pediatrics 2009 Statement on AHT:
- “The American Academy of Pediatrics recommends that pediatricians develop skills in the recognition of signs and symptoms of abusive head injury, including those caused by both shaking and blunt impact, consult with pediatric subspecialists when necessary, and embrace a less mechanistic term, abusive head trauma, when describing an inflicted injury to the head and its contents.”



# Daubert 4th Element: General Acceptance

- American Academy of Pediatrics 2009 Statement:
  - Acknowledge the limits of ability to determine a precise mechanism from the nature of the injuries
  - SBS is subset of AHT, which covers all forms of inflicted head injuries
  - Use of AHT avoids primary controversy in the field—shaking alone—impact—both?
  - Unique constellation of injuries differentiates inflicted injuries from other causes



# Defense Retort:

- Respect for precedent does not require courts to ignore flaws in logic...law must adapt when prior scientific theories are undermined by scientific logic...
- SBS has lost "general acceptance" within scientific community...huh?



# SBS Admissible Under Daubert

- Nebraska v. Liebhart, 662 N.W.2d 618 (2003)
- Delaware v. Vandemark, 2004 Lexis 376  
(Superior Court November 19, 2004)
- State v. Brooks, 2004 Wash. App. LEXIS 361  
(2004)
- State of Ohio v. Woodson, 2005 Ohio 5691:  
2005 Ohio App. LEXIS 5136 (October 2005)



# Case Law Attacking SBS:

- State v. Edmonds, 2008 WI APP 33, (WI Ct of App., January 31, 2008)
- Commonwealth of Kentucky v. Davis, Case 04-CR-205, (Circuit Court Order, Greenup Circuit Court, April 16, 2006)



# Frye v. United States:

- “Scientific principle or discovery must be sufficiently established to have gained general acceptance in the particular field in which it belongs”



# Defense Attack

- Claim SBS evidence and AHT evidence is not “generally accepted” within scientific community



# SBS Admissible under Frye:

- In the Matter of Mandy G and Brad G, 2003 Minn App. LEXIS 838 (App. Ct. Minn. 2003)
- People v. Swart, 369 Ill. App. 3d 614; 860 N.E.2d 1142; 2006 Ill. App. LEXIS 1235; 308 Ill. Dec. 60 (Ill.App 2 Dist. 2006)
- State v. McClary, 541 A.2d 96, 102 (Conn. 1988)
- People v. Ceasor, 2007 WL 2011747 (Mich.App. 6 Dist. 2007)



# Firing Shots Back At Defense:

- Motions in Limine:

- Ask for Frye hearing on defense "expert"
- Move to bar testimony based on Daubert
- Limit testimony of defense expert

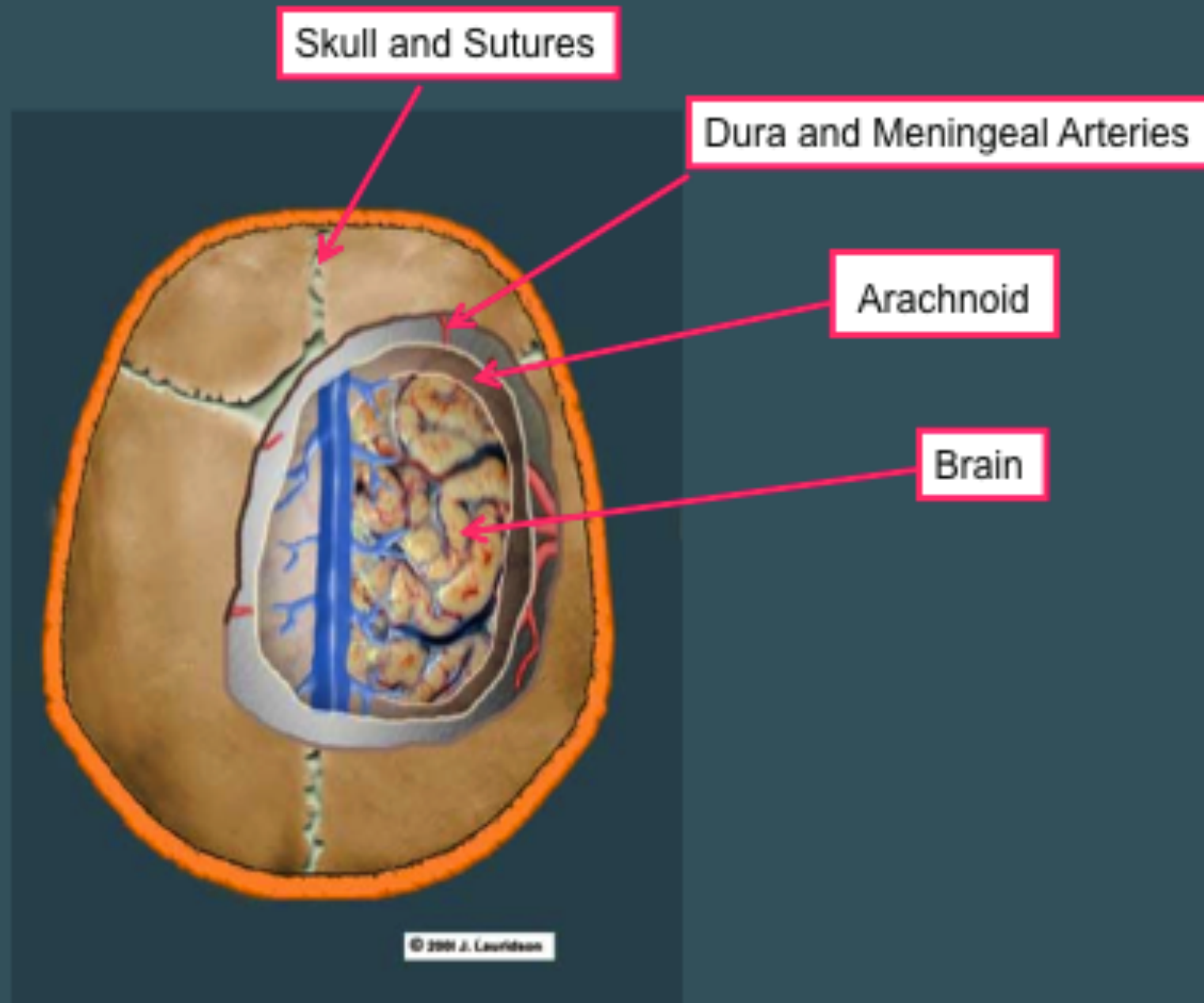


# Presenting Evidence of AHT In Court

- Extraordinarily complicated
- Jury's are visual:
- Motion in Limine to Admit Demonstrative Evidence

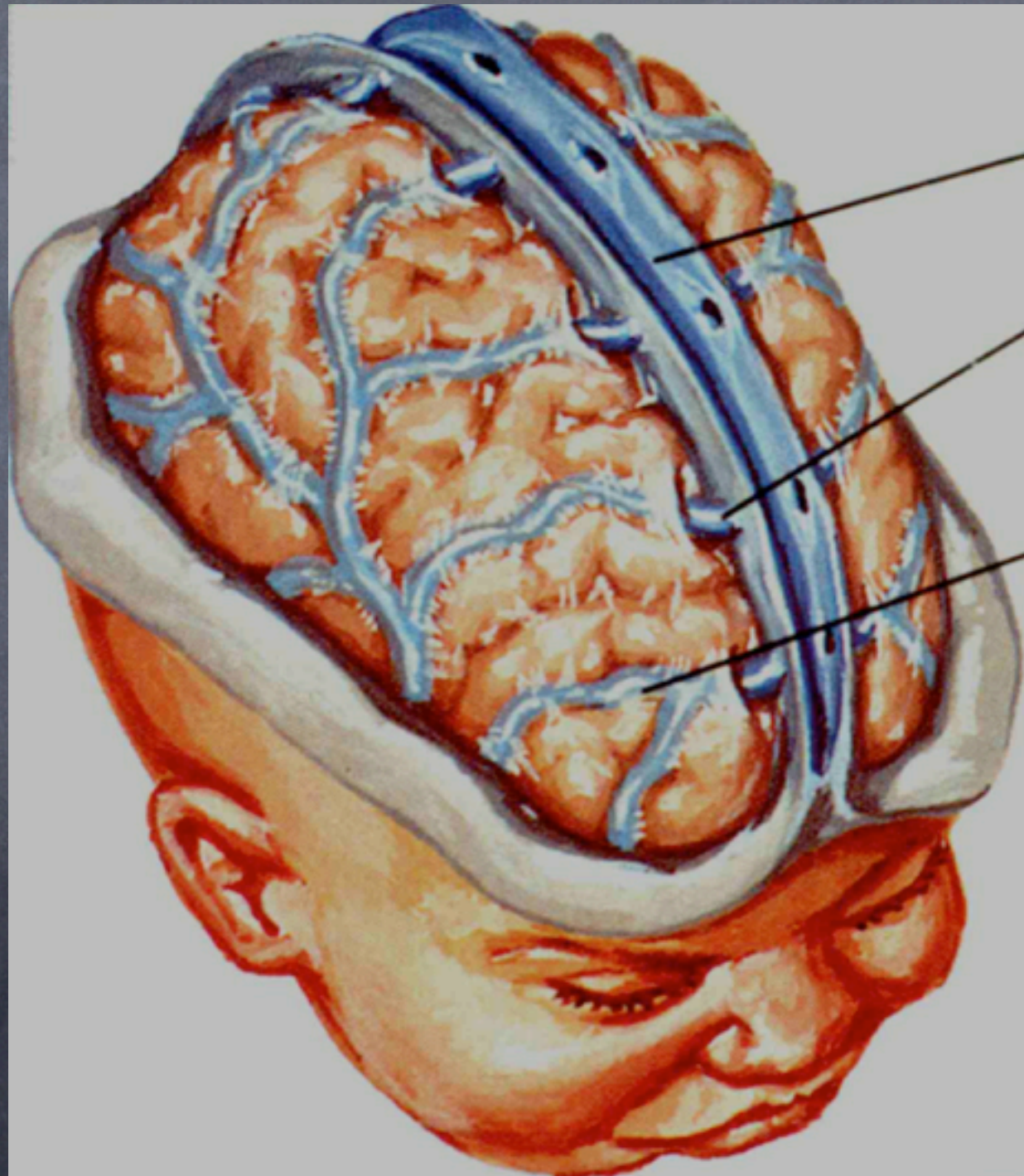


# Explaining Anatomy:



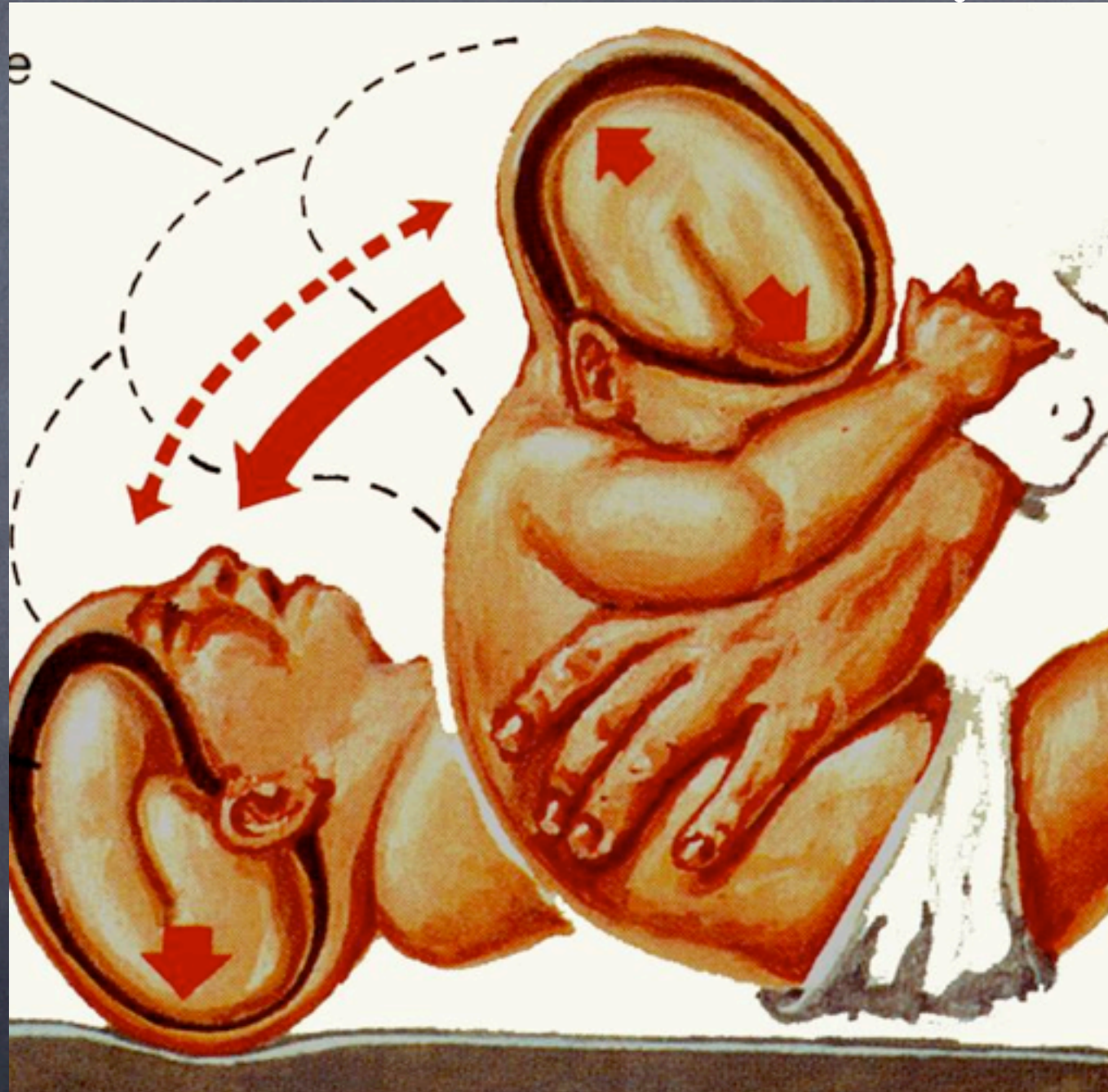


# Veins in Brain:



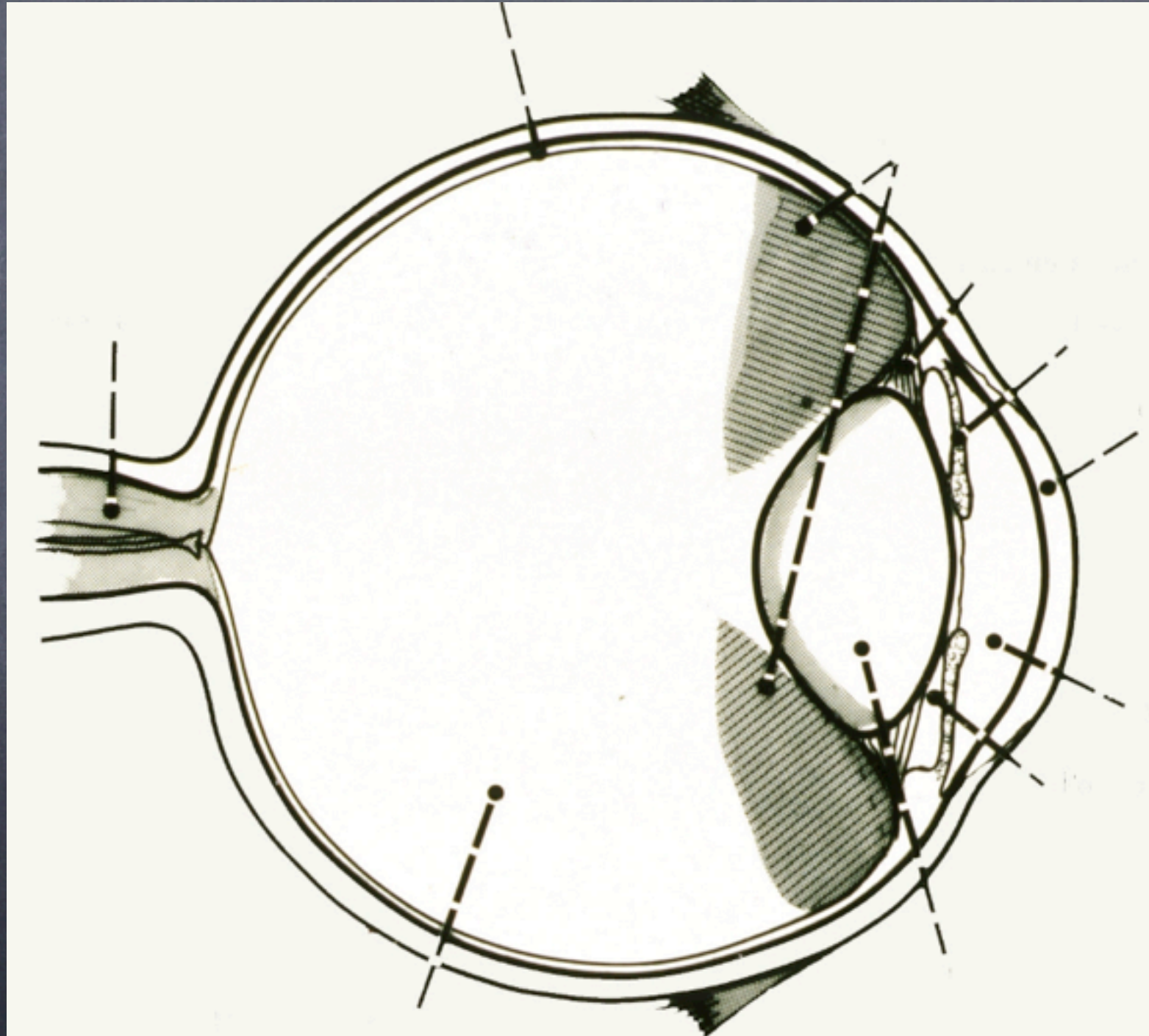


# Mechanism of Injury: Shaken and Impact





# Retinal Hemorrhages:





# Presenting Demonstrative Evidence:

- Clarify or illustrate expert's testimony
- Exhibit sufficiently accurate
- Degree of similarity between exhibit and actual baby
- Misuse of exhibit: degree of force
- Does exhibit exceed scope of properly admitted evidence
- Unnecessarily violent
- Probative value outweighed by jury confusion or prejudice
- **Cautionary instruction** limit use of exhibit to proper bounds



# Cases Law Admissible:

- Moore v. State, Tex App. LEXIS 11125 (Dec. 9, 2004)
- State v. Styles, 662 N.W.2d 1 (IA 2003) (CGE)
- State v. Carrilo, 562 S.E.2d 47 (NC App 2002)(CGE)
- State v. Cauley, 32 P.3d 602 (Col Ct. App. 2001) (CGE)
- State v. Myers, 628 N.W.3d 273 (WI App. 2000)
- Powell v. State, 487 S.E.2d 424 (Ga. Ct. App. 1997)
- State v. Candela, 929 S.W.2d 852 (Mo. Ct. App. 1996)



# Caveats on Use of Demonstrative Aids

- Use of Dolls:
- Computer Generated Animations or Video:



# Final Advice:

- Get ready to read...
- Have medical at fingertips
- Contact us at NDAA: [www.ndaa.org](http://www.ndaa.org),  
703-549-9222
- Make friends with doctors...



# Thank You...

Questions???

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